

# **State of Alaska FY2007 Governor's Operating Budget**

## **Department of Environmental Conservation Laboratory Services Component Budget Summary**

## Component: Laboratory Services

### Contribution to Department's Mission

Provide analytical and technical information in support of state and national environmental health programs.

### Core Services

- Inspect and certify drinking water and environmental testing laboratories.
- Laboratory tests on food, water, seafood, shellfish, and domestic and wild animals.
- Laboratory testing and analysis of fish tissue for chemical, microbial, and marine toxin contaminants.
- Test marine waters for suitability for commercial shellfish growing.
- Permit and inspect milk producers and dairy product processors.
- Permit and inspect reindeer meat producers.
- Permit and monitor the import and export of pets, domestic livestock, and veterinary biologics.
- Surveillance and control of new and emerging animal diseases, zoonotic diseases, Foreign Animal Diseases, and agriculture based terrorism threats.

End Results	Strategies to Achieve Results
<b>A: Information is available for assessment of risks to public health, welfare and the environment.</b>  <u>Target #1:</u> All requested tests are completed. <u>Measure #1:</u> The % of tests requested that receive results.	<b>A1: Provide information relating to risks associated with chemical and biological contaminants.</b>  <u>Target #1:</u> All requested tests for chemical and biological contaminants are complete. <u>Measure #1:</u> The % of requested tests for contaminants that receive results.  <b>A2: Provide information relating to risks associated with animal diseases.</b>  <u>Target #1:</u> All requested tests for animal diseases are complete. <u>Measure #1:</u> The % of requested tests for animal diseases that receive results.  <b>A3: Provide information relating risks associated with toxins.</b>  <u>Target #1:</u> All requested tests for toxins are complete. <u>Measure #1:</u> The % of requested tests for toxins that receive results.

### Major Activities to Advance Strategies

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Test shellfish.</li> <li>• Test food and water samples.</li> <li>• Test species of fish per contaminant group.</li> <li>• Review labs for certification annually.</li> </ul> | <ul style="list-style-type: none"> <li>• Train EH staff on drinking water sampling and testing protocols annually.</li> <li>• Screen and/or inspect dairy farms and processors.</li> <li>• Issue animal health certificates.</li> <li>• Investigate animal disease complaints and outbreaks.</li> </ul> |
|---|---|

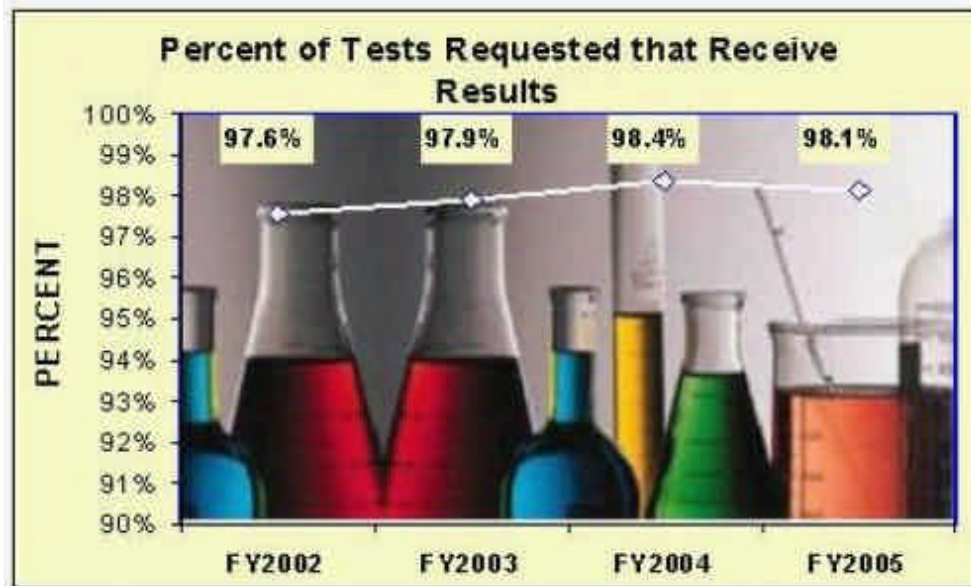
## FY2007 Resources Allocated to Achieve Results

FY2007 Component Budget: \$2,813,100

**Personnel:**

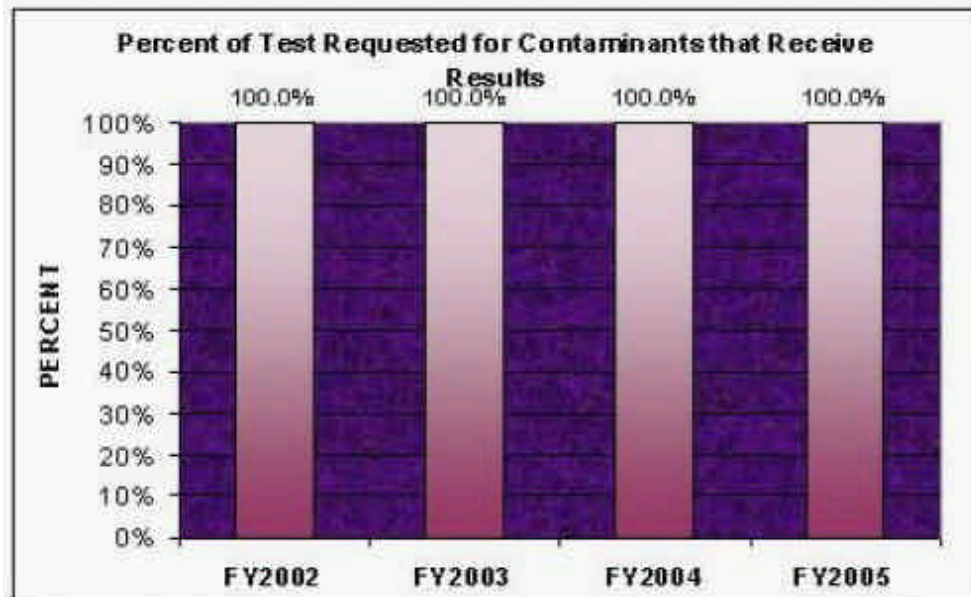
Full time	23
Part time	0
<b>Total</b>	<b>23</b>

## Performance Measure Detail

**A: Result - Information is available for assessment of risks to public health, welfare and the environment.****Target #1:** All requested tests are completed.**Measure #1:** The % of tests requested that receive results.

**Analysis of results and challenges:** The Environmental Health Laboratory's Target is to provide optimal customer service in the form of accurate, timely, and reliable results for 100% of the requests received. In addition to performing both biological and chemical analysis, the laboratory will continue to perform certification inspections for drinking water and environmental testing laboratories throughout the state. During FY2005 a new state-of-art testing Environmental Health Laboratory with enhanced testing capabilities was constructed. The new facility will include testing labs for seafood toxins, bacteriology, immunology, dairy, animal diagnostics, chemical analysis, and molecular biology. New processes will be developed and implemented during FY2006. They include: a Quality Management Program, Safety Program, Security Program, Laboratory Information Management System, Animal Diagnostic Program, and Molecular Biology Program. The transition from Palmer to Anchorage is expected to be completed by July 2006. These changes may temporarily impact performance through FY2007.

**A1: Strategy - Provide information relating to risks associated with chemical and biological contaminants.****Target #1:** All requested tests for chemical and biological contaminants are complete.**Measure #1:** The % of requested tests for contaminants that receive results.



**Analysis of results and challenges:** Mercury testing of fish tissues is the primary testing activity for this measure. During the first three quarters of FY2005 there were few mercury tests completed because of equipment problems. A new analyzer was purchased and became available for use in the fourth quarter after required validation, training and process documentation.

Because Alaska is a leading producer world wide for seafood, methyl mercury in fish has become a high profile issue. The Division of Environmental Health is the regulatory agency responsible for assuring the safety of commercially harvested fish for national and international markets, as well as subsistence and sport fish consumers.

The toxicity of mercury to man and animals in large doses is well known and has a long history. Mercury is a naturally occurring element and widely distributed in the environment. Ores bearing mercury are mined worldwide and the refined mercury used in many commercial applications. Mercury is also found in trace quantities in fossil fuels such as coal and released into the environment when burned. With the advancement of science and refined measuring techniques for mercury, trace amounts were detected in the environment but more importantly, found in the water and food that we consume.

Mercury that enters the food chain is of particular concern due to its more toxic organic form as methyl mercury. The more toxic compound is formed when bacteria, for unknown reasons, convert elemental mercury to methyl mercury. Once this conversion to methyl mercury takes place the mercury is now in a form that is known to bioaccumulate. This bioaccumulation factor becomes significant among predatory fish and animals, with man being the top predator in the food chain.

The significance of methyl mercury in fish became a concern more than 30 years ago. The US Food and Drug Administration set a regulatory level of 1ppm (part per million) for fish entering commerce. At the time this was considered a safe level for food consumption. Recent studies by the World Health Organization, US Environmental Protection Agency and private organizations indicate that the 1ppm level may not protect all segments of the population, particularly children, expectant mothers and women of child bearing age who consume fish on a regular basis.

Although there is little that can be done from the regulatory standpoint to eliminate the methyl mercury issue, it is the Division of Environmental Health's responsibility to provide information through laboratory testing that will identify problems if lower regulatory levels are imposed. The accumulation of methyl mercury data for all species of fish will also allow consumers to make informed choices for consumption of Alaska fish. The Division's Environmental Health Laboratory began collecting data in 1997 and is gradually expanding its data base on the many fish indigenous to Alaska, both freshwater and saltwater species. As this data becomes available, it is viewable to the public on the Division's web page.

**A2: Strategy - Provide information relating to risks associated with animal diseases.**

**Target #1:** All requested tests for animal diseases are complete.

**Measure #1:** The % of requested tests for animal diseases that receive results.



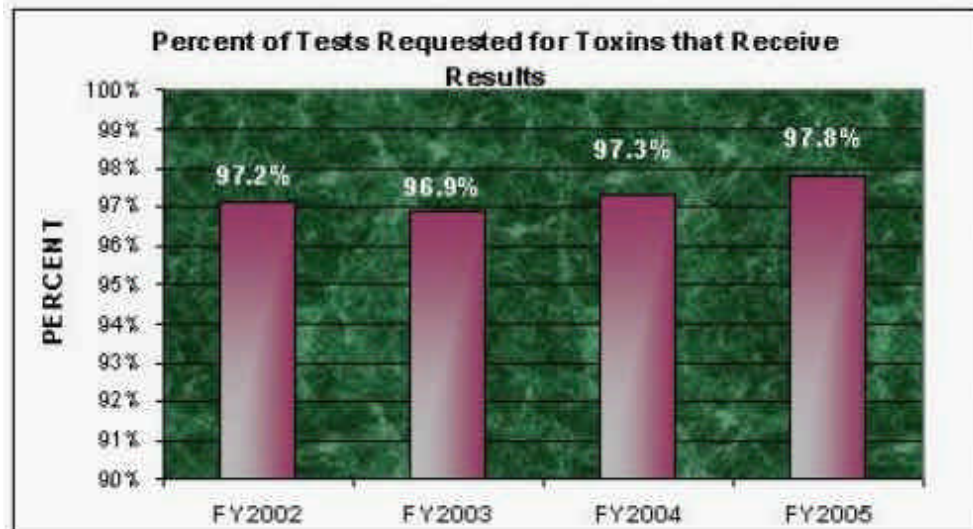
**NO DATA UNTIL FY2007**

**Analysis of results and challenges:** This strategy provides the State of Alaska with the initial framework to monitor farm animals and wildlife for Transmissible Spongiform Encephalopathy (TSE) related diseases. Subsequent to the first reported case of "mad cow" disease in the United States, it has become more critical for the State Environmental Health Laboratory to develop the capability to test for various TSEs. Construction of a new facility, with accommodations to performing animal diagnostics is expected to be complete and operational by July 2006; implementation of these new procedures will take place during FY2007 after which data will become available for this measure. Animal tissue examination and molecular testing using DNA amplification will be possible in the future. It is expected that this testing scheme will be expanded from Chronic Wasting Disease (CWD) surveillance in wild game to Bovine Spongiform Encephalopathy (BSE) "mad cow" and scrapies surveillance in domestic animals. This testing contributes to the strategy of providing information relating to risks associated with animal diseases.

**A3: Strategy - Provide information relating risks associated with toxins.**

**Target #1:** All requested tests for toxins are complete.

**Measure #1:** The % of requested tests for toxins that receive results.



**Analysis of results and challenges:** Paralytic Shellfish Poison (PSP) toxins are toxins produced by microscopic organisms that accumulate in shellfish through their natural feeding processes. These toxins affect humans, other mammals, and possibly birds when toxic shellfish are ingested. There is no known antidote once a person has ingested shellfish containing these toxins, nor is there any way of knowing, just from looking, whether or not a particular shellfish is toxic. If the person can be diagnosed soon enough after presenting with symptoms and can be placed on a respirator, the body will eventually cleanse itself of the toxins. The current method for detecting and quantifying these toxins is the mouse bioassay using extracts prepared by an AOAC (Association of Official Analytical Chemists) approved method. A chemistry procedure using High Pressure Liquid Chromatography (HPLC) was recently approved by AOAC and will become the new method of choice at the new Anchorage location.

Using a graduated uniform sampling plan, shellfish from commercial shellfish growing areas are routinely tested for these toxins. Since the department started the testing program in the early 1980's, no known illnesses have occurred from commercially harvested Alaskan grown shellfish.

All samples submitted to the laboratory are assigned a number and nearly all samples are tested. Although the intent is to test 100% of the samples that are received, occasionally samples are submitted in a decomposed condition that prevents testing; or a sample submitter will request that the sample they submitted not be tested for a variety of reasons. These factors would account for a percent completion being less than 100%.

## Key Component Challenges

Replacing the existing leased facility with a new Environmental Health Laboratory (EHL) that meets the federal operational and safety standards for a modern laboratory is a priority for this component. On September 2, 2005 DEC took possession of the new laboratory. Transition from the old facility in Palmer to the new laboratory in Anchorage, while continuing to provide analytical and technical information, is a significant challenge. During the next two fiscal years, staff face a steep learning curve with respect to operating a modern scientific laboratory.

Ensuring the public of the safety of Alaska's wild fish resources continues to be an issue. We consistently receive requests from buyers of Alaska's seafood products asking for assurance that they have not been altered by pollution. Recent articles emphasize contamination of our food resources, especially fish, with environmental pollutants like mercury. Authors of these articles question the benefit of a fish diet and recommend restrictive consumption. The EHL is continuing a fish tissue testing program to sample and test salmon, halibut and other species for persistent organic pollutants and heavy metals. Continued monitoring is necessary to assure buyers that our wild fish resources are not negatively impacted by persistent organic pollutants (pesticides, PCB's, Dioxins) and are an essential part of a healthy diet.

The Office of the State Veterinarian is establishing surveillance programs for newly emerging diseases, foreign animal diseases, zoonotic diseases and agriculture based terrorism threats. The new EHL will provide histological and analytical support for this surveillance. These threats, some of which have recently begun to appear in the United

States pose a grave threat to agriculture, wildlife, and public health in Alaska, as well as to the \$3.5 trillion agriculture industry of this country. Efforts to address this important public health function have been increased as the threat to agriculture is elevated from increasing agricultural imports and international travel to the state.

## **Significant Changes in Results to be Delivered in FY2007**

The Office of the State Veterinarian (OSV) has a single veterinarian on staff to meet all the technical needs of the animal health program and the demands of increased animal and zoonotic disease surveillance and monitoring. An increase in animal disease related outbreak threats to domestic and wildlife species are requiring continuous coverage by the OSV in meeting their statutory responsibilities. In the FY2006 budget, the legislature approved an Assistant State Veterinarian position but appropriated an amount of federal funds that covers only half of what is needed to support the position. Additional general funds have been requested to fully fund the cost of this position and to provide flexibility for assignment of responsibilities and tasks not allowable under available grants. With these funds, the position will be able to lend support for non-federal activities such as response to a disease outbreak (Avian Flu) or an animal investigation.

## **Major Component Accomplishments in 2005**

Laboratory staff worked closely with DOT throughout FY2005 to complete the construction of the new Environmental Health Laboratory while at the same time continuing the operation of the laboratory as scheduled.

Laboratory staff worked with a private company to validate a new rapid screen for paralytic shellfish poisoning (PSP) and began work to implement a High Performance Liquid Chromatograph (HPLC) technique for PSP. This work will allow future elimination of the mouse bioassay currently used to determine the presence of PSP in Alaska shellfish.

A new mercury analysis method was validated and placed into operation during the early part of 2005.

As a result of the first occurrence of *Vibrio parahaemolyticus* (Vp) in Alaska shellfish in the summer of 2004, laboratory staff worked closely with the FDA to continue analysis for Vp and to develop the DNA Hybridization techniques and Polymerase Chain Reaction techniques that will be used for Vp testing in the future.

Completed the second year of a testing project for geoduck clams. The project was based on a sample protocol and testing method developed with industry to identify timeframes for safe shipment and sale of live product. Live sale of geoducks during the 2004/2005 harvest season continued at the increased 2003/2004 level.

The Office of the State Veterinarian (OSV) initiated three Foreign Animal Disease Investigations. The first investigation related to increased mortality of moose in the Fairbanks and Delta Junction area and is still under investigation. The second involved a high (40%) mortality rate in a flock of domestic ducks imported into the state. In this case Avian Influenza (AI) and Exotic Newcastle Disease (END) were ruled out. The third case related to deaths in a domestic poultry operation, again AI and END were ruled out.

State-wide surveillance testing for AI was performed by the OSV at agricultural fairs as part of the state's Influenza Response Plan.

## **Statutory and Regulatory Authority**

AS 03.05, AS 03.45, AS 03.58, AS 17.05, AS 17.07, AS 17.20, AS 44.46, AS 46.03, 18 AAC 15, 18 AAC 31, 18 AAC 32, 18 AAC 34, 18 AAC 80, 18 AAC 90

Contact Information
<p><b>Contact:</b> Kristin Ryan, Director <b>Phone:</b> (907) 269-7644 <b>Fax:</b> (907) 269-7654 <b>E-mail:</b> kristin_ryan@dec.state.ak.us</p>



### Laboratory Services Component Financial Summary

*All dollars shown in thousands*

	FY2005 Actuals	FY2006 Management Plan	FY2007 Governor
<b>Non-Formula Program:</b>			
<b>Component Expenditures:</b>			
71000 Personal Services	1,231.7	1,643.7	1,774.4
72000 Travel	41.4	51.1	53.6
73000 Services	565.3	783.5	792.5
74000 Commodities	83.1	146.9	147.9
75000 Capital Outlay	150.0	43.7	44.7
77000 Grants, Benefits	0.0	0.0	0.0
78000 Miscellaneous	0.0	0.0	0.0
<b>Expenditure Totals</b>	<b>2,071.5</b>	<b>2,668.9</b>	<b>2,813.1</b>
<b>Funding Sources:</b>			
1002 Federal Receipts	580.5	1,084.2	1,105.4
1003 General Fund Match	88.4	94.2	97.5
1004 General Fund Receipts	1,050.7	1,059.1	1,164.0
1005 General Fund/Program Receipts	75.0	153.9	158.7
1007 Inter-Agency Receipts	223.0	263.4	272.8
1052 Oil/Hazardous Response Fund	13.4	14.1	14.7
1061 Capital Improvement Project Receipts	40.5	0.0	0.0
<b>Funding Totals</b>	<b>2,071.5</b>	<b>2,668.9</b>	<b>2,813.1</b>

### Estimated Revenue Collections

Description	Master Revenue Account	FY2005 Actuals	FY2006 Management Plan	FY2007 Governor
<b>Unrestricted Revenues</b>				
None.		0.0	0.0	0.0
<b>Unrestricted Total</b>		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Restricted Revenues</b>				
Federal Receipts	51010	580.5	1,084.2	1,105.4
Interagency Receipts	51015	223.0	263.4	272.8
General Fund Program Receipts	51060	75.0	153.9	158.7
Capital Improvement Project Receipts	51200	40.5	0.0	0.0
<b>Restricted Total</b>		<b>919.0</b>	<b>1,501.5</b>	<b>1,536.9</b>
<b>Total Estimated Revenues</b>		<b>919.0</b>	<b>1,501.5</b>	<b>1,536.9</b>

**Summary of Component Budget Changes  
From FY2006 Management Plan to FY2007 Governor**

*All dollars shown in thousands*

	<u>General Funds</u>	<u>Federal Funds</u>	<u>Other Funds</u>	<u>Total Funds</u>
<b>FY2006 Management Plan</b>	<b>1,307.2</b>	<b>1,084.2</b>	<b>277.5</b>	<b>2,668.9</b>
<b>Adjustments which will continue current level of service:</b>				
-FY 07 Wage Increases for Bargaining Units and Non-Covered Employees	20.6	6.8	3.1	30.5
-FY 07 Health Insurance Cost Increases for Bargaining Units and Non-Covered Employees	2.7	0.8	0.5	4.0
-FY 07 Retirement Systems Cost Increase	38.8	12.8	6.0	57.6
<b>Proposed budget increases:</b>				
-Risk Management Self-Insurance Funding Increase	2.5	0.8	0.4	3.7
-Assistant State Veterinarian Funding	48.4	0.0	0.0	48.4
<b>FY2007 Governor</b>	<b>1,420.2</b>	<b>1,105.4</b>	<b>287.5</b>	<b>2,813.1</b>

### Laboratory Services Personal Services Information

Authorized Positions			Personal Services Costs	
	<u>FY2006</u> <u>Management</u> <u>Plan</u>	<u>FY2007</u> <u>Governor</u>		
Full-time	23	23	Annual Salaries	1,155,412
Part-time	0	0	COLA	31,306
Nonpermanent	0	0	Premium Pay	2,004
			Annual Benefits	647,853
			Less 3.39% Vacancy Factor	(62,175)
			Lump Sum Premium Pay	0
<b>Totals</b>	<b>23</b>	<b>23</b>	<b>Total Personal Services</b>	<b>1,774,400</b>

### Position Classification Summary

Job Class Title	Anchorage	Fairbanks	Juneau	Others	Total
Administrative Clerk III	2	0	0	0	2
Administrative Manager III	1	0	0	0	1
Analyst/Programmer III	1	0	0	0	1
Assistant State Veterinarian	1	0	0	0	1
Chemist III	2	0	0	0	2
Chemist IV	1	0	0	0	1
Environ Health Off III	0	0	0	1	1
Environ Program Manager III	1	0	0	0	1
Environ Program Spec IV	2	0	0	0	2
Laboratory Technician	4	0	0	0	4
Microbiologist II	3	0	0	0	3
Microbiologist III	2	0	0	0	2
Research Analyst III	1	0	0	0	1
State Veterinarian	1	0	0	0	1
<b>Totals</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>23</b>